

## PROPHYLAXIS IN OBSTETRICS, WITH SPECIAL REFERENCE TO THE VALUE AND IMPORTANCE OF PRE-NATAL CARE

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THE dominating feature of the science and art of medicine in all its branches as taught to-day is, and should be, that of prophylaxis. No one who is at all interested in the welfare of humanity, can question the wisdom of such a doctrine. Furthermore, this should be developed to such a high degree, as to inculcate into the members of the medical profession, as well as laymen, the responsibilities of the former, and the desirability of the co-operation of the latter, in preventing the occurrence and spread of disease.

In the whole domain of preventive medicine none, in the opinion of the writer, deserves greater attention, more intensive study, and a more accurate conception as to its extreme importance, than that of the welfare of the prospective mother and her offspring. Viewed from the economic and sociological as well as the purely scientific standpoint, she is deserving of the highest consideration, for if the unborn child is to survive, and not contribute to the existing excessive rate of infant mortality, the prospective mother must first be brought to the highest possible degree of physical efficiency during her pregnant state. Pre-natal supervision, therefore, of the gravid female, is one of the most practical applications of modern preventive medicine, and is one to which the general practitioner can contribute to a very material degree.

In her exhaustive investigation which Grace Meigs undertook into the mortality from childbirth, it was clearly brought out what a vast improvement must be forthcoming in order to materially reduce the mortality from pregnancy and the puerperal state. A condition which is responsible for between fifteen to twenty thousand maternal deaths annually, in the registration area of the United States alone, not to mention an equally high morbidity, and which next to tuberculosis, ranks as the highest death rate, and outnumbers the

deaths from heart disease and neoplastic diseases, for the female population during the child-bearing period, must certainly be regarded with grave concern, especially as it affects our female population between the ages of fifteen and forty-five.

In an effort to arrive at a relative, if not absolute conclusion, it appeared to the writer that it might be profitable to examine the histories of the near female relatives of a large number of applicants for life insurance. To that end, through the courtesy of Mr. S. C. Tweed, and Dr. W. L. Hilliard, president and medical director, respectively, of the Ontario Equitable Life Insurance Company, the histories of five thousand applicants, both accepted and declined, were carefully examined; and I here desire to express my deep appreciation to both these gentlemen for their ready co-operation and interest in this analysis.

Careful study of the family histories of these five thousand applicants revealed a very striking condition as to the place which childbirth occupies as a cause of mortality among women during the child-bearing period. From the accompanying table, it will be seen that of the five thousand applicants, two hundred and forty-six had a mother or sister or both who died from childbirth; one hundred and forty-nine died from tuberculosis; and one hundred and thirty-two from neoplastic diseases. In other words, the mortality from childbirth among the near female relatives of the applicants was almost equal to that of the combined mortality from tuberculosis and cancer. The significance of these figures is particularly striking when one considers that these deaths from childbirth occurred, in the great majority of cases, within the past fifteen to twenty years; a period in which the death-rate from typhoid fever, malaria, diphtheria, etc. has been markedly reduced.

Much as we may desire to juggle these figures, the fact remains that there are certain pre-requisites which every physician must

*Table Showing Mortality of Near Female Relatives of Five Thousand Consecutive Applicants in the Ontario Equitable Life and Accident Insurance Company*

Relative	Mortality from Childbirth	Mortality from Tuberculosis	Mortality from Cancer
Mother only	143	54	112
One sister only	95	76	17
Two sisters only	4	8	...
Three sisters only	1	2	...
Mother and one sister	3	7	3
Mother and two sisters	...	2	...
Total	246	149	132

fulfil before the function of childbearing can be consummated to a successful termination with a minimum of risk and the maximum of success. *A priori*, every physician who assumes the responsibility of looking after a pregnant woman, must be prepared to exert every possible effort at his command, and the best of his skill, in order that she may be guided by him through a most important epoch in her life. Above all, he must not only know when and how to interfere, as the emergency arises, but also when *not* to interfere, for "meddlesome midwifery" is one of the greatest dangers surrounding the practice of obstetrics to-day. Harrar has tersely expressed it when he says that "Patience in obstetrics is next to asepsis, but it must be the active patience of close observation; not the passive patience of ignorance, allowing the mother to become totally exhausted, or the baby in imminent peril of death before determining on a line of action."

Realizing, therefore, as Davis states, that the present maternal mortality is the greatest medical crime of to-day, the question naturally arises what factors should be utilized to reduce it from practically the same figure where it stood seventy years ago to the irreducible minimum. To that end it seems logical to carry out in a systematic and aggressive manner, the education of the public, and to invite the most

active co-operation of the physician; and these will be dealt with more fully in the succeeding pages.

Primarily, the public must be taken into the confidence of the medical profession, and taught in a practical manner how much can really be accomplished by proper pre-natal care, and by the practice of clean obstetrics associated with reasonable skill, for as Pomeroy has aptly put it, too many women of all classes "select their obstetricians as they select their bridesmaids."

From a fair experience obtained by the writer in private practice and in the pre-natal clinic, it has become very evident that much can be gained through the exercise of sympathetic tact; and once having won the patient's confidence, the value of pre-natal care to herself as well as her unborn child, can easily be brought out, and having accomplished this, the patient invariably shows a desire for co-operation even beyond our most sanguine expectations.

In addition, increased and more adequate hospital facilities for obstetrical patients must be forthcoming, in order to impress upon our women that the hospital is after all the safest place in which to be delivered, especially is this applicable in the case of every primipara, irrespective of her social status, or her financial resources. Polak, in his usual clear manner has shown that it is the middle class of women who make up the sixty-one per cent. of gynaecological patients who suffer directly from the result of poor obstetrics.

In undertaking the care of a pregnant patient, all will agree that the physician is dealing with a very important branch of medicine; for who will deny the fact that it is infinitely more difficult to treat two patients than one? Nevertheless, in many cases, physicians do not regard the care of their obstetrical patients with as much importance as they do even a minor surgical condition. The reason for this is really paradoxical, for it is at one and the same time both easy and difficult to ascertain. Usually the average patient is given too little pre-natal care. The physician in many cases overestimates his own abilities, and does not recognize the limitations of his knowledge, or the extent of his qualifications, while

at the same time, the responsibility which he owes to the prospective mother and her child are very much underestimated.

When a woman presents herself to us after she has become pregnant, she should be impressed with the idea that until she has given birth to her child, and the generative organs have gone through the period of involution, her physician holds himself in constant readiness to render her whatever assistance or advice she may desire or be in need of. He should not wait for her to volunteer subjective complaints, but rather must he be on the *qui vive* for all those abnormal deviations which may and do occur so often during pregnancy and the puerperium. The physician, therefore, must gauge each case according to its exigencies as the occasion arises, in order thereby to stave off any unpleasant or threatening complications.

At the very outset the patient should be instructed as to her personal hygiene, the type of housework which she may carry on, her mode of living, the recreations in which she may indulge, etc., and if on interrogation, any or all of these should be found to be faulty, then it is incumbent upon the physician to rectify them, and thus avert any untoward results which not infrequently may be productive of much harm. In short, sustained and active watchfulness, combined with thorough and painstaking investigation of each particular case, should be the uppermost thought in the mind of the medical attendant. If his patient can only be impressed with the idea that her personal comfort and interests are being carefully looked after by her physician, active co-operation by her will be his lot, and instead of being characterized as a drudgery, obstetrics will be elevated to the dignified plane which it so justifiably deserves.

Coming now to the purely medical side of pre-natal care, the patient on her first visit should be closely questioned as to her past history, with special emphasis upon the occurrence during childhood of any of the acute exanthemata, particularly scarlet fever, and also as to the possible occurrence of acute rheumatic fever. A history of these diseases should immediately place the physician on guard as to their possible effect upon the existing pregnancy, with its added burden of

metabolic activities. Similarly should the patient be interrogated as to the occurrence of venereal diseases, for it is now universally agreed that the early detection and intensive anti-syphilitic treatment during pregnancy is productive of markedly beneficial results, especially from the standpoint of the offspring. A history or suggestion of rickets should also forewarn the physician as to the possible existence of a malformation of the pelvic girdle. In short, a thorough and carefully obtained history often discloses to the medical attendant the possible abnormalities which may affect his patient, or confront him during her pregnancy; and to be forewarned in obstetrics, as in any other branch of medicine, is to be forearmed.

Following the history, the patient should be subjected to a careful and very thorough physical examination, and this should not be conducted with a biased mind simply because she presents herself to her physician to engage him for her delivery. Rather, should he direct his attention to the various extra-genital systems, in order to detect, and if possible correct, any abnormal conditions affecting them. Foci of infection should be carefully looked for, particularly in the teeth and tonsils, for the work of Talbot in this direction promises to be productive of valuable information as a possible etiological factor in the production of the toxæmias of pregnancy.

The cardio-vascular system should be thoroughly investigated, and the condition of the myocardium should be estimated in order to determine its ability to withstand the strain of pregnancy and labour. It is needless here to go into an exhaustive discussion of the treatment of cardiac disease complicating pregnancy, except to point out that the mere detection of a murmur should not stamp the patient as an advanced cardiopath, and therefore submit her to the dangers of Caesarean section, or other of the fads practised on the most flimsy of excuses, by the radical element among obstetricians. The presence of pulmonary tuberculosis should be carefully looked for, and if present, must be treated along the lines usually advocated by those who are pre-eminently qualified to offer authority on this phase of the subject. The excretory systems should be investigated, and if not functioning properly should of course be assisted by the institution

of adequate measures. The blood pressure should then be taken, and a careful urinalysis performed to exclude the presence of any abnormal findings.

Having satisfied himself that the patient is to the best of his knowledge free from any gross disease, the physician should then perform a careful abdominal and pelvic examination, which should include accurate pelvimetry, both external and internal, in order to estimate the relation which exists between the foetus and the pelvis, and the capacity of the latter to allow the birth of the child with safety to itself, and without extensive and irreparable damage to the maternal soft parts. If any borderline degree of contraction is detected, then it should be insisted that the patient be delivered in a properly equipped maternity hospital, where every safeguard is at the disposal of her attendants, thus assuring a successful result. On the other hand, should there be present such a gross malformation of the pelvic girdle as to preclude the delivery of a living child *per vaginam*, then the patient should be stamped as one for an elective Caesarean section, which can thus be performed with the greatest possible safety, rather than exposing her to repeated vaginal examinations, unsuccessful attempts at instrumental delivery, and finally terminating in a dead baby, a damaged mother, and not infrequently death from shock or sepsis.

Other conditions to be looked for, are the presence of pelvic tumours, the existence of gonorrhoea and syphilis, malpositions of the uterus, the possibility of extra-uterine pregnancy, etc., any of which if detected, should be treated along proper lines. Having arrived at a stage where he has as it might be termed a complete invoice of his patient, and having satisfied himself that she will in all probability pass through a normal delivery, the physician's only concern is to guard against toxæmia, to note the possibility of some abnormal presentation of the foetus, and to be constantly on the lookout for abnormal situations of the placenta.

The question is frequently asked, how often should the patient be seen during pregnancy? Given a woman who, after careful examination can be stamped as a normal case, it is the writer's custom to advise the patient to present herself every month up to the fifth month, every

three weeks up to the seventh month, and every two weeks from then on, until labour begins. At each visit, the blood pressure should be taken and the urine examined for albumin or other abnormal contents. In addition, the patient should be questioned as to the condition of her bowels, and particularly as to the presence of any abnormal complaints, such as headache, swelling of the feet, gastric and ocular disturbances, and disturbances in the urinary function. Any of these, if present, should be immediately investigated, and appropriate treatment instituted by measures designed to ameliorate them and bring the patient back to a normal condition. From the standpoint of the child, a routine Wassermann test is now generally conceded to be a valuable measure to detect the presence of latent syphilis in the mother. The foetal heart sounds should be counted at regular intervals from the seventh month up to term, in order to detect any alteration in its rate or rhythm. If an abnormal presentation is found, then of course an attempt should be made to rectify it, and if possible to maintain it in the normal position.

If the physician will conduct every case of pregnancy along the lines indicated above, then he will be fully informed as to the condition of his patient at all stages of her pregnancy. Repeated investigations by reliable workers have shown that the toxæmias of pregnancy and puerperal sepsis are the greatest contributing causes to maternal mortality, and until study and research have revealed the exact cause of toxæmia, the profession must rely upon watchful and thorough pre-natal care to bring about the desired reduction in the morbidity and mortality from childbirth.

In conclusion, the tremendous responsibility which rests upon the medical profession in respect to pregnancy and its associated conditions, can perhaps be best emphasized by recalling what Oliver Wendell Holmes wrote in 1843, in his epoch-making essay on the "Contagiousness of Puerperal Fever." That this pioneer physician must have been keen enough to appreciate the value and importance of pre-natal care, even if not expressed in such a term, is clearly conveyed by the following words. "The woman about to become a mother, or with her newborn infant upon her bosom, should be the object of trembling care and sympathy wher-

ever she bears her tender burden or stretches her aching limbs. The very outcast of the streets has pity upon her sister in degradation when the seal of promised maternity is impressed upon her. The remorseless vengeance of the law, brought down upon its victim by a machinery as sure as destiny, is arrested in its fall at a word which reveals her transient claim for mercy. The solemn prayer of the liturgy singles out her sorrows from the multiplied trials of life, to plead for her in the hour of peril. God forbid that any member of

the profession to which she trusts her life, doubly precious at that eventful period, should hazard it negligently, unadvisedly, or selfishly."

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A CASE OF GALACTORRHOEA<sup>1</sup>

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**G**ALACTORRHOEA is defined by the medical dictionaries as an excessive flow of milk, and by authoritative texts as a continuous flow of milk from the breast after the usual period of lactation. The two definitions are obviously significantly different. The use of the first is illustrated in a recent paper by Hinselmann, who refers to twenty cases seen in eight weeks, and all cured with special binders.

Accepting the latter and more correct definition, galactorrhoea is extremely rare, of unknown etiology, and with doubtful treatment. DeLee has only seen one case in his extensive obstetrical practice. This continued four years, the milk disagreed with the children so that they had to be wet-nursed, while recovery occurred when a small abscess near the nipple was opened. DeLee states that return of menstruation usually is accompanied by cessation of flow, and says further, "If I should meet another case I would use mammary extract and corpus luteum experimentally." Since the effect of corpus luteum and mammary extract injections is to increase milk flow, this suggests the application of "a hair of the dog that bit him." DeLee says further that the disease is more frequent in neurotic women, and in some cases abnormal practices on the breasts may be suspected if simulation and exaggeration are eliminated.

We have been able to find nothing published as to the composition of the secretion, though Berkeley describes it as "pale watery milk." He states that "the amount lost *per diem* amounts to a considerable quantity. The breast in many cases presents no external signs of great activity, indeed, it is often quite flaccid. Usually only one breast is affected. . . . The fluid is of little nutritive value."

The following case presents a number of marked differences from DeLee's and Berkeley's descriptions. The milk resembled a thick cream, though it certainly was of problematical nutritive value. Both breasts were affected, and both showed marked signs of activity. There was no evidence of any abscess formation nor chronic inflammation in either breast. Return of menstruation was not accompanied by cessation of flow.

X-ray treatment gave immediate results.

The chemical study was incomplete, because since the patient resided at some distance from Winnipeg and wished to return home as soon as possible, X-ray treatment was applied after only a small amount of milk had been obtained for analysis, and this treatment immediately stopped the milk-flow. Nevertheless the chemical composition is so unusual, that even allowing for considerable variations it suggests marked abnormality of the secretory cell function. It is fur-